

WHAT IS CLAIMED IS:

1. A method of separating sulfur compounds from a hydrocarbon mixture using an ionic membrane, said hydrocarbon mixture containing at least one sulfur compound and hydrocarbons, comprising the steps of:
 - (a) contacting said hydrocarbon mixture with said membrane;
 - (b) selectively permeating said sulfur compounds of said hydrocarbon mixture through said membrane forming sulfur-rich permeate and sulfur-lean retentate; and
 - (c) retrieving said sulfur-rich permeate and said sulfur-lean retentate.
2. The method of claim 1 wherein said ionic membrane is a polymer of perfluorosulfonic acid and derivatives thereof.
3. The method of claim 2 wherein said ionic membrane comprises organic salts.
4. The method of claim 2 wherein said ionic membrane comprises sodium ions.
5. The method of claim 1 wherein said sulfur compound is thiophene or a derivative of thiophene.
6. The method of claim 1 wherein said sulfur-lean fraction contains 1 to about 300 ppm of sulfur.
7. The method of claim 6 wherein said sulfur-lean fraction contains 1 to about 100 ppm of sulfur.

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8. The method of claim 7 wherein said sulfur-lean fraction contains 1 to about 50 ppm of sulfur.
9. The method of claim 1 wherein said hydrocarbon mixture is light cracked naphtha.
10. The method of claim 1 wherein said hydrocarbon mixture contains 10 to about 4,000 ppm of sulfur.
11. The method of claim 1 wherein said hydrocarbon mixture contains a transport agent.
12. The method of claim 11 wherein said transport agent is an alcohol.
13. The method of claim 12 wherein said alcohol is methanol.

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